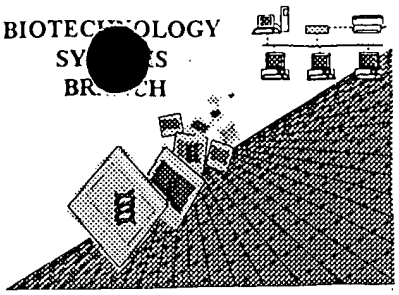

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/701,623A

Source: PCT

Date Processed by STIC: 5-29-01

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT,**
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT,**

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.
Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:
http://www.uspto.gov/web/offices/pac/checker

PCT

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: **US/09/701,623A** TIME: 16:03:21

Input Set : **A:\PTO.txt**
Output Set: **C:\CRF3\05292001\I701623A.raw**

SEQUENCE LISTING

(1) GENERAL INFORMATION:
(i) APPLICANT: UNITED BIOMEDICAL INC., et al.
(ii) TITLE OF INVENTION: PEPTIDE COMPOSITION AS IMMUNOGEN FOR THE TREATMENT OF ALLERGY
(iii) NUMBER OF SEQUENCES: 91
(iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: Morgan & Finnegan
(B) STREET: 345 Park Avenue
(C) CITY: New York
(D) STATE: NY
(E) COUNTRY: USA
(F) ZIP: 10154-0053
(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: WORD 8.0
(vi) CURRENT APPLICATION DATA:
C--> **(A) APPLICATION NUMBER: US/09/701,623A**
C--> **(B) FILING DATE: 01-May-2001**
(C) CLASSIFICATION: 514
(vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: US 09/100,287
(B) FILING DATE: 20-JUN-1998
(viii) ATTORNEY/AGENT INFORMATION:
(A) NAME: MARIA C.H.LIN
(B) REGISTRATION NUMBER: 29,323
(C) REFERENCE/DOCKET NUMBER: 1151-4153US1
(ix) TELECOMMUNICATION INFORMATION:
(A) TELEPHONE: 212-758-4800
(B) TELEFAX: 212-751-6849

Does Not Comply
Corrected Diskette Needed

ERRORED SEQUENCES

(2) INFORMATION FOR SEQ ID NO: 1:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 325 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: protein
(ix) FEATURE:
(A) NAME/KEY: O chain of human IgE
(x) PUBLICATION INFORMATION:
(A) AUTHORS: Dorrington and Bennich
(C) JOURNAL: Immunol

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

(D) VOLUME: 41
(F) PAGES: 3-25
(G) DATE: 1978
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

```
Val Cys Ser Arg Asp Phe Thr Pro Pro Thr Val Lys
  1               5                  10
Ile Leu Gln Ser Ser Cys Asp Gly Gly Gly His Phe
            15                  20
Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly
 25                  30                  35
Tyr Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu
             40                  45
Asp Gly Gln Val Met Asp Val Asp Leu Ser Thr Ala
     50                  55                  60
Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln
                 65                  70
Ser Glu Leu Thr Leu Ser Gln Lys His Trp Leu Ser
            75                  80
Asp Arg Thr Tyr Thr Cys Gln Val Thr Tyr Gln Gly
 85                  90                  95
His Thr Phe Glu Asp Ser Thr Lys Lys Cys Ala Asp
            100                 105
Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg
        110                 115                 120
Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro
                    125                 130
Thr Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser
            135                 14  140
Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser
145                 150                 155
Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu
            160                 165
Lys Gln Arg Asn Gly Thr Leu Thr Val Thr Ser Thr
        170                 175                 180
Leu Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu
                    185                 190
Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro
            195                 200
Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly
205                 210                 215
Pro Arg Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr
            220                 225
Pro Glu Trp Pro Gly Ser Arg Asp Lys Arg Thr Leu
        230                 235                 240
Ala Cys Leu Ile Gln Asn Phe Met Pro Glu Asp Ile
                    245                 250
Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro
            255                 260
Asp Ala Arg His Ser Thr Thr Gln Pro Arg Lys Thr
```

E--> 101

Invalid amino acid numbering.

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
      265                 270                 275
      Lys Gly Ser Gly Phe Phe Val Phe Ser Arg Leu Glu
                  280                 285
      Val Thr Arg Ala Glu Trp Gln Glu Lys Asp Glu Phe
          290                 295                 300
      Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser
                      305                 310
      Gln Thr Val Gln Arg Ala Val Ser Val Asn Pro Gly
              315                 320
      Lys
      325
(2) INFORMATION FOR SEQ ID NO: 2:
     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 312 amino acids
          (B) TYPE: amino acid
          (D) TOPOLOGY: linear
    (ii) MOLECULE TYPE: protein
   (ix) FEATURE:
          (A) NAME/KEY: O chain of dog IgE
C--> (x) PUBLICATION INFORMATION:
          (A) AUTHORS: Patel et al.
          (C) JOURNAL: Immunogenetics
          (D) VOLUME: 41
          (F) PAGES: 282-286
          (G) DATE: 1995
  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
      Ala Cys Ala Leu Asn Phe Ile Pro Pro Thr Val Lys
        1               5                  10
      Leu Phe His Ser Ser Cys Asn Pro Val Gly Asp Thr
                 15                  20
      His Thr Thr Ile Gln Leu Leu Cys Leu Ile Ser Gly
       25                  30                  35
      Tyr Val Pro Gly Asp Met Glu Val Ile Trp Leu Val
                   40                  45
      Asp Gly Gln Lys Ala Thr Asn Ile Phe Pro Tyr Thr
           50                  55                  60
      Ala Pro Gly Thr Lys Glu Gly Asn Val Thr Ser Thr
                       65                  70
      His Ser Glu Leu Asn Ile Thr Gln Gly Glu Trp Val
                 75                  80
      Ser Gln Lys Thr Tyr Thr Cys Gln Gly Phe Thr Phe
       85                  90                  95
      Lys Asp Glu Ala Arg Lys Cys Ser Glu Ser Asp Pro
                   100                 105
      Arg Gly Val Thr Ser Tyr Leu Ser Pro Pro Ser Pro
          110                 115                 120
      Leu Asp Leu Tyr Val His Lys Ala Pro Lys Ile Thr
                       125                 130
      Cys Leu Val Val Asp Leu Ala Thr Met Glu Gly Met
```

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
     194                135                 140
     195       Asn Leu Thr Trp Tyr Arg Glu Ser Lys Glu Pro Val
     196       145                 150                 155
     197       Asn Pro Gly Pro Leu Asn Lys Lys Asp His Phe Asn
E--> 198                 160                 ^ 165
     199       Gly Thr Ile Thr Val Thr Ser Thr Leu Pro Val Asn
     200           170                 175                 180
     201       Thr Asn Asp Trp Ile Glu Gly Glu Thr Tyr Tyr Cys
     202                     185                 190
     203       Arg Val Thr His Pro His Leu Pro Lys Asp Ile Val
     204                195                 200
     205       Arg Ser Ile Ala Lys Ala Pro Gly Lys Arg Ala Pro
E--> 206       205                 210                 21  -> 215
     214       Pro Asp Val Tyr Leu Phe Leu Pro Pro Glu Glu Glu
     215                     220                 225
     216       Gln Gly Thr Lys Asp Arg Val Thr Leu Thr Cys Leu
     217           230                 235                 240
     218       Ile Gln Asn Phe Phe Pro Ala Asp Ile Ser Val Gln
     219                     245                 250
     220       Trp Leu Arg Asn Asp Ser Pro Ile Gln Thr Asp Gln
     221                255                 260
     222       Tyr Thr Thr Thr Gly Pro His Lys Val Ser Gly Ser
     223       265                 270                 275
     224       Arg Pro Ala Phe Phe Ile Phe Ser Arg Leu Glu Val
     225                     280                 285
     226       Ser Arg Val Asp Trp Glu Gln Lys Asn Lys Phe Thr
     227           290                 295                 300
     228       Cys Gln Val Val His Glu Ala Leu Ser Gly Ser Arg
     229                     305                 310
     232 (2) INFORMATION FOR SEQ ID NO: 3:
     234      (i) SEQUENCE CHARACTERISTICS:
     235           (A) LENGTH: 313 amino acids
     236           (B) TYPE: amino acid
     237           (D) TOPOLOGY: linear
     239     (ii) MOLECULE TYPE: protein
     241     (ix) FEATURE:
     242           (A) NAME/KEY: O chain of rat IgE
     244      (x) PUBLICATION INFORMATION:
     245           (A) AUTHORS: Steen et al.
     246           (C) JOURNAL: J Mol Biol
     247           (D) VOLUME: 177
     248           (F) PAGES: 19-32
     249           (G) DATE: 1984
     251     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
     253       Ala Arg Pro Val Asn Ile Thr Lys Pro Thr Val Asp
     254         1               5                  10
     255       Leu Leu His Ser Ser Cys Asp Pro Asn Ala Phe His
     256                15                  20
     257       Ser Thr Ile Gln Leu Tyr Cys Phe Val Tyr Gly His
```

Invalid amino acid numbering.

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
E--> 258        25                  30                  3  --> 35
     266       Ile Gln Asn Asp Val Ser Ile His Trp Leu Met Asp
     267                    40                  45
     268       Asp Arg Lys Ile Tyr Asp Thr His Ala Gln Asn Val
     269            50                  55                  60
     270       Leu Ile Lys Glu Glu Gly Lys Leu Ala Ser Thr Tyr
     271                        65                  70
     272       Ser Arg Leu Asn Ile Thr Gln Gln Gln Trp Met Ser
     273                 75                  80
     274       Glu Ser Thr Phe Thr Cys Lys Val Thr Ser Gln Gly
     275        85                  90                  95
     276       Glu Asn Tyr Trp Ala His Thr Arg Arg Cys Ser Asp
     277                    100                 105
     278       Asp Glu Pro Arg Gly Val Ile Thr Tyr Leu Ile Pro
     279           110                 115                 120
     280       Pro Ser Pro Leu Asp Leu Tyr Glu Asn Gly Thr Pro
     281                        125                 130
     282       Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu
     283                 135                 140
     284       Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys
     285       145                 150                 155
     286       Lys Ser Ile Gly Ser Ala Ser Gln Arg Ser Thr Lys
     287                    160                 165
     288       His His Asn Ala Thr Thr Ser Ile Thr Ser Ile Leu
     289           170                 175                 180
     290       Pro Val Asp Ala Lys Asp Trp Ile Glu Gly Glu Gly
     291                        185                 190
     292       Tyr Gln Cys Arg Val Asp His Pro His Phe Pro Lys
     293                 195                 200
     294       Pro Ile Val Arg Ser Ile Thr Lys Ala Leu Gly Leu
     295       205                 210                 215
     296       Arg Ser Ala Pro Glu Val Tyr Val Phe Leu Pro Pro
     297                    220                 225
     298       Glu Glu Glu Glu Lys Asn Lys Arg Thr Leu Thr Cys
     299           230                 235                 240
     300       Leu Ile Gln Asn Phe Phe Pro Glu Asp Ile Ser Val
     301                        245                 250
     302       Gln Trp Leu Gln Asp Ser Lys Leu Ile Pro Lys Ser
     303                 255                 260
     304       Gln His Ser Thr Thr Thr Pro Leu Lys Thr Asn Gly
     305       265                 270                 275
     306       Ser Asn Gln Arg Phe Phe Ile Phe Ser Arg Leu Glu
     307                    280                 285
     308       Val Thr Lys Ala Leu Trp Thr Gln Thr Lys Gln Phe
     309           290                 295                 300
     310       Thr Cys Arg Val Ile His Glu Ala Leu Arg Glu Pro
E--> 311                        305                 31  --> 310
     319       Arg
     321 (2) INFORMATION FOR SEQ ID NO: 4:
```

Invalid amino acid numbering.

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 313 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: protein
(ix) FEATURE:
(A) NAME/KEY: O chain of mouse IgE
(x) PUBLICATION INFORMATION:
(A) AUTHORS: Ishida et al.
(C) JOURNAL: EMBO
(D) VOLUME: 1
(F) PAGES: 1117-1123
(G) DATE: 1982
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

Val Arg Pro Val Thr His Ser Leu Ser Pro Pro Trp
1 5 10
Ser Tyr Ser Ile His Arg Cys Asp Pro Asn Ala Phe
15 20
His Ser Thr Ile Gln Leu Tyr Cys Phe Ile Tyr Gly
25 30 35
His Ile Leu Asn Asp Val Ser Val Ser Trp Leu Met
40 45
Asp Asp Arg Glu Ile Thr Asp Thr Leu Ala Gln Thr
50 55 60
Val Leu Ile Lys Glu Glu Gly Lys Leu Ala Ser Thr
65 70
Cys Ser Lys Leu Asn Ile Thr Glu Gln Gln Trp Met
75 80
Ser Glu Ser Thr Phe Thr Cys Arg Val Thr Ser Gln
85 90 95
Gly Cys Asp Tyr Leu Ala His Thr Arg Arg Cys Pro
100 105
Asp His Glu Pro Arg Gly Ala Ile Thr Tyr Leu Ile
110 115 120
Pro Pro Ser Pro Leu Asp Leu Tyr Gln Asn Gly Ala
E--> 364 125 13
Pro Lys Leu Thr Cys Leu Val Val Asp Leu Glu Ser
135 140
Glu Lys Asn Val Asn Val Thr Trp Asn Gln Glu Lys
145 150 155
Lys Thr Ser Val Ser Ala Ser Gln Trp Tyr Thr Lys
160 165
His His Asn Asn Ala Thr Thr Ser Ile Thr Ser Ile
170 175 180
Leu Pro Val Val Ala Lys Asp Trp Ile Glu Gly Tyr
185 190
Gly Tyr Gln Cys Ile Val Asp Arg Pro Asp Phe Pro
195 200
Lys Pro Ile Val Arg Ser Ile Thr Lys Thr Pro Gly

Invalid amino acid numbering.
130

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
385       205                 210                 215
386       Gln Arg Ser Ala Pro Glu Val Tyr Val Phe Pro Pro
387                   220                 225
388       Pro Glu Glu Glu Ser Glu Asp Lys Arg Thr Leu Thr
389           230                 235                 240
390       Cys Leu Ile Gln Asn Phe Phe Pro Glu Asp Ile Ser
391                       245                 250
392       Val Gln Trp Leu Gly Asp Gly Lys Leu Ile Ser Asn
393                 255                 260
394       Ser Gln His Ser Thr Thr Thr Pro Leu Lys Ser Asn
395       265                 270                 275
396       Gly Asn Gln Gly Phe Phe Ile Phe Ser Arg Leu Glu
397                   280                 285
398       Val Ala Lys Thr Leu Trp Thr Gln Arg Lys Gln Phe
399           290                 295                 300
400       Thr Cys Gln Val Ile His Glu Ala Leu Gln Lys Pro
401                       305                 310
402       Arg
405  (2) INFORMATION FOR SEQ ID NO: 5:
407       (i) SEQUENCE CHARACTERISTICS:
408            (A) LENGTH: 25 amino acids
409            (B) TYPE: amino acid
410            (D) TOPOLOGY: linear
412       (ii) MOLECULE TYPE: peptide
414       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
416       Cys Gly Glu Thr Tyr Gln Ser Arg Val Thr His Pro
E--> 417   1                 5                   1
425       His Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys
426                 15                  20
427       Cys
428        25
762  (2) INFORMATION FOR SEQ ID NO: 16:
764       (i) SEQUENCE CHARACTERISTICS:
765            (A) LENGTH: 6 amino acids
766            (B) TYPE: amino acid
767            (D) TOPOLOGY: linear
769       (ii) MOLECULE TYPE: peptide
771       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:
W--> 773   Pro Pro Xaa Pro Xaa Pro
E--> 774    1               5
1088 (2) INFORMATION FOR SEQ ID NO: 22:
1090      (i) SEQUENCE CHARACTERISTICS:
1091           (A) LENGTH: 60 amino acids
1092           (B) TYPE: amino acid
1093           (D) TOPOLOGY: linear
1095      (ii) MOLECULE TYPE: peptide
1097      (ix) FEATURE:
1098           (A) NAME/KEY: Modified-site
1099           (B) LOCATION: 19
```

misaligned amino acid numbering. Use spaces not tabs

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
1100           (D) OTHER INFORMATION: /note= "Ile, Met or
1101 Leu"
1103      (ix) FEATURE:
1104           (A) NAME/KEY: Modified-site
1105           (B) LOCATION: 20
1106           (D) OTHER INFORMATION: /note= "Ser or Thr"
1115      (ix) FEATURE:
1116           (A) NAME/KEY: Modified-site
1117           (B) LOCATION: 23
1118           (D) OTHER INFORMATION: /note= "Lys or Arg"
1120      (ix) FEATURE:
1121           (A) NAME/KEY: Modified-site
1122           (B) LOCATION: 24
1123           (D) OTHER INFORMATION: /note= "Gly or Thr"
1125      (ix) FEATURE:
1126           (A) NAME/KEY: Modified-site
1127           (B) LOCATION: 28
1128           (D) OTHER INFORMATION: /note= "His or Thr"
1130      (ix) FEATURE:
1131           (A) NAME/KEY: Modified-site
1132           (B) LOCATION: 29
1133           (D) OTHER INFORMATION: /note= "Lys or Arg"
1135      (ix) FEATURE:
1136           (A) NAME/KEY: Modified-site
1137           (B) LOCATION: 30
1138           (D) OTHER INFORMATION: /note= "Ile, Met or
1139 Leu"
1141      (ix) FEATURE:
1142           (A) NAME/KEY: Modified-site
1143           (B) LOCATION: 32
1144           (D) OTHER INFORMATION: /note= "Gly or Thr"
1146      (ix) FEATURE:
1147           (A) NAME/KEY: Modified-site
1148           (B) LOCATION: 33
1149           (D) OTHER INFORMATION: /note= "Ile, Met or
1150 Val"
1152      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:
1154        Thr Ala Lys Ser Lys Lys Phe Pro Ser Tyr Thr Ala
E--> 1155    1               5                  10
W--> 1156   Thr Tyr Gln Phe Gly Gly Xaa Xaa Glu Ile Xaa Xaa
E--> 1157            15                  20
W--> 1158   Val Ile Val Xaa Xaa Xaa Glu Xaa Xaa Gly Gly Cys
E--> 1159    25                  30                  35
1160        Gly Glu Thr Tyr Gln Ser Arg Val Thr His Pro His
E--> 1161            40                  4
1170        Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Cys
E--> 1171        50                  55                  60
1310 (2) INFORMATION FOR SEQ ID NO: 25:
1312      (i) SEQUENCE CHARACTERISTICS:
```

misaligned amino acid number. use spaces not tabs

45

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

1313 (A) LENGTH: 45 amino acids
1314 (B) TYPE: amino acid
1315 (D) TOPOLOGY: linear
1317 (ii) MOLECULE TYPE: peptide
1319 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:
1321 Lys Lys Lys Ile Ile Thr Ile Thr Arg Ile Ile Thr
E--> 1322 1 5 1 → 10
1331 Ile Ile Thr Thr Ile Asp Gly Gly Cys Gly Tyr Gly
1332 15 20
1333 Tyr Gln Ser Ile Val Asp His Pro Asp Phe Pro Lys
1334 25 30 35
1335 Pro Ile Val Arg Ser Ile Thr Lys Cys
1336 40 45
1360 (2) INFORMATION FOR SEQ ID NO: 27:
1362 (i) SEQUENCE CHARACTERISTICS:
1363 (A) LENGTH: 46 amino acids
1364 (B) TYPE: amino acid
1365 (D) TOPOLOGY: linear
1367 (ii) MOLECULE TYPE: peptide
1369 (ix) FEATURE:
1370 (A) NAME/KEY: Modified-site
1371 (B) LOCATION: 1
1372 (D) OTHER INFORMATION: /note= "Met or Leu"
1374 (ix) FEATURE:
1375 (A) NAME/KEY: Modified-site
1376 (B) LOCATION:
1385 (D) OTHER INFORMATION: /note= "Thr"
1387 (ix) FEATURE:
1388 (A) NAME/KEY: Modified-site
1389 (B) LOCATION: 7
1391 (D) OTHER INFORMATION: /note= "Arg"
1393 (ix) FEATURE:
1394 (A) NAME/KEY: Modified-site
1395 (B) LOCATION: 8
1396 (D) OTHER INFORMATION: /note= "Thr"
1398 (ix) FEATURE:
1399 (A) NAME/KEY: Modified-site
1400 (B) LOCATION: 12
1401 (D) OTHER INFORMATION: /note= "Thr"
1403 (ix) FEATURE:
1404 (A) NAME/KEY: Modified-site
1405 (B) LOCATION: 13
1406 (D) OTHER INFORMATION: /note= "Arg"
1408 (ix) FEATURE:
1409 (A) NAME/KEY: Modified-site
1410 (B) LOCATION: 14
1411 (D) OTHER INFORMATION: /note= "Met or Leu"
1413 (ix) FEATURE:
1414 (A) NAME/KEY: Modified-site

No "Xaa's" shown in Seq # 27.

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
1415           (B) LOCATION: 16
1416           (D) OTHER INFORMATION: /note= "Thr"
1418      (ix) FEATURE:
1419           (A) NAME/KEY: Modified-site
1420           (B) LOCATION: 17
1421           (D) OTHER INFORMATION: /note= "Met or Val"
1423      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:
1425          Ile Ser Ile Ser Glu Ile Lys Gly Val Ile Val His
1426            1               5                  10
1427          Lys Ile Glu Gly Ile Leu Phe Gly Gly Cys Gly Glu
1428                    15                  20
1429          Thr Tyr Tyr Ser Arg Val Thr His Pro His Leu Pro
E--> 1430       25                  30                  3
1440          Lys Asp Ile Val Arg Ser Ile Ala Lys Cys
1441                       40                  45
1467  (2) INFORMATION FOR SEQ ID NO: 29:
1469       (i) SEQUENCE CHARACTERISTICS:
1470           (A) LENGTH: 60 amino acids
1471           (B) TYPE: amino acid
1472           (D) TOPOLOGY: linear
1474      (ii) MOLECULE TYPE: peptide
1476      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:
1478        Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys
1479          1               5                  10
1480        Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu
1481                  15                  20
1482        Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys
E--> 1483       25                  30                  3
1491        Ser Pro Thr Ile Thr Ser Leu Val Val Asp Leu Ala
1492                     40                  45
1493        Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg
1494             50                  55                  60
1520  (2) INFORMATION FOR SEQ ID NO: 31:
1522       (i) SEQUENCE CHARACTERISTICS:
1523           (A) LENGTH: 76 amino acids
1524           (B) TYPE: amino acid
1525           (D) TOPOLOGY: linear
1527      (ii) MOLECULE TYPE: peptide
1529      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:
1531        Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Ser
1532          1               5                  10
1533        Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser
1534                  15                  20
1535        Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val
E--> 1536       25                  30                  3
1544        Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe Asp Leu
1545                     40                  45
1546        Phe Ile Arg Lys Ser Pro Thr Ile Thr Ser Leu Val
1547             50                  55                  60
```

No "Xaa's" shown in Seq. #27

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
1549       Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu
1550                        65                  70
1552       Thr Trp Ser Arg
1553                75
1573  (2) INFORMATION FOR SEQ ID NO: 33:
1575       (i) SEQUENCE CHARACTERISTICS:
1576            (A) LENGTH: 46 amino acids
1577            (B) TYPE: amino acid
1578            (D) TOPOLOGY: linear
1580       (ii) MOLECULE TYPE: peptide
1582       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:
1584         Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys
1585          1               5                  10
1586         Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu
1587                  15                  20
1588         Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys
E--> 1589     25                  30                  3
1597         Ser Pro Thr Ile Thr Ser Leu Val Val Asp
1598                       40                  45
1625  (2) INFORMATION FOR SEQ ID NO: 35:
1627       (i) SEQUENCE CHARACTERISTICS:
1628            (A) LENGTH: 62 amino acids
1629            (B) TYPE: amino acid
1630            (D) TOPOLOGY: linear
1632       (ii) MOLECULE TYPE: peptide
1634       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:
1636         Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Ser
1637          1               5                  10
1638         Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser
1639                  15                  20
1640         Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val
1641          25                  30                  35
1642         Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe Asp Leu
E--> 1643                 40                  4
1652         Phe Ile Arg Lys Ser Pro Thr Ile Thr Ser Leu Val
1653              50                  55                  60
1654         Val Asp
2325  (2) INFORMATION FOR SEQ ID NO: 66:
2327       (i) SEQUENCE CHARACTERISTICS:
2328            (A) LENGTH: 27 amino acids
2329            (B) TYPE: amino acid
2330            (D) TOPOLOGY: linear
2332       (ii) MOLECULE TYPE: peptide
2334       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 66:
2336         Tyr Asp Pro Asn Tyr Leu Arg Thr Asp Ser Asp Lys
E--> 2337     1               5                  1
2346         Asp Arg Phe Leu Gln Thr Met Val Lys Leu Phe Asn
2347                  15                  20
2348         Arg Ile Lys
```

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
2349        25
2592 (2) INFORMATION FOR SEQ ID NO: 79:
2594      (i) SEQUENCE CHARACTERISTICS:
2595           (A) LENGTH: 17 amino acids
2596           (B) TYPE: amino acid
2597           (D) TOPOLOGY: linear
2599      (ii) MOLECULE TYPE: peptide
2601      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 79:
2603       Lys Trp Phe Lys Thr Asn Ala Pro Asn Gly Val Asp
E--> 2604   1               5                  1
2612       Glu Lys Ile Arg Ile
2613                15
2716 (2) INFORMATION FOR SEQ ID NO: 85:
2718      (i) SEQUENCE CHARACTERISTICS:
2719           (A) LENGTH: 60 amino acids
2720           (B) TYPE: amino acid
2721           (D) TOPOLOGY: linear
2723      (ii) MOLECULE TYPE: peptide
2724      (ix) FEATURE:
2725           (A) NAME/KEY: Modified-site
2726           (B) LOCATION: 18
2727           (D) OTHER INFORMATION: /note= "Thr"
2729      (ix) FEATURE:
2730           (A) NAME/KEY: Modified-site
2731           (B) LOCATION: 21
2732           (D) OTHER INFORMATION: /note= "Arg"
2734      (ix) FEATURE:
2735           (A) NAME/KEY: Modified-site
2736           (B) LOCATION: 22
2737           (D) OTHER INFORMATION: /note= "Thr"
2740      (ix) FEATURE:
2741           (A) NAME/KEY: Modified-site
2742           (B) LOCATION: 26
2743           (D) OTHER INFORMATION: /note= "Thr"
2745      (ix) FEATURE:
2746           (A) NAME/KEY: Modified-site
2747           (B) LOCATION: 27
2748           (D) OTHER INFORMATION: /note= "Arg"
2750      (ix) FEATURE:
2751           (A) NAME/KEY: Modified-site
2752           (B) LOCATION: 30
2753           (D) OTHER INFORMATION: /note= "Thr"
2755      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 85:
2757       Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu
2758         1               5                  10
2759       Gly Gly Ile Ser Ile Ser Glu Ile Lys Gly Val Ile
2760                15                  20
2761       Val His Lys Ile Glu Gly Ile Leu Phe Gly Gly Cys
E--> 2762   25                  30                 3
```

10

No "Xaa's" shown in seq. # 85

35

RAW SEQUENCE LISTING DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:21

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

```
2771       Gly Gly Thr Tyr Gln Ser Arg Val Thr His Pro His
2772                    40                  45
2773       Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Cys
2774            50                  55                  60
2862 (2) INFORMATION FOR SEQ ID NO: 90:
2864      (i) SEQUENCE CHARACTERISTICS:
2865           (A) LENGTH: 45 amino acids
2866           (B) TYPE: amino acid
2867           (D) TOPOLOGY: linear
2877     (ii) MOLECULE TYPE: peptide
2879     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90:
2881         Ile Ser Leu Thr Glu Ile Arg Thr Val Ile Val Thr
2882           1               5                  10
2883         Arg Leu Glu Thr Val Leu Phe Lys Cys Gly Glu Thr
2884                   15                  20
2885         Tyr Tyr Ser Arg Val Thr His Pro His Leu Pro Lys
2886         25                  30                  35
E--> 2887    Asp Ile Val Arg Ser Ile Ala Lys Cysm
2888                      40                  45
```

Invalid amino acid designator.

(2) INFORMATION FOR SEQ ID NO:47: Seq # 47

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 19 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linea → Linear?

Repeated in Sequence #77

VERIFICATION SUMMARY DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:22

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

L:32 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:33 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:101 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:1
L:154 M:220 C: Keyword misspelled or invalid format, [(x) PUBLICATION INFORMATION:]
L:198 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2
L:206 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2
L:258 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:3
L:311 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:3
L:364 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:4
L:417 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:5
L:588 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:590 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:666 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:773 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:774 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:16
L:862 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:864 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:929 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:931 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:992 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:994 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:1078 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:1080 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:1155 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:1157 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1158 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:1159 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1161 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1171 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1185 M:220 C: Keyword misspelled or invalid format, [(D) OTHER INFORMATION:]
L:1243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23
L:1245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23
L:1300 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:1302 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:1322 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:25
L:1430 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:27
L:1483 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:29
L:1536 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:31
L:1589 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:33
L:1643 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:35
L:1909 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=47
L:2216 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:2218 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:2337 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:66
L:2551 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=77
L:2604 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:79

VERIFICATION SUMMARY DATE: 05/29/2001
PATENT APPLICATION: US/09/701,623A TIME: 16:03:22

Input Set : A:\PTO.txt
Output Set: C:\CRF3\05292001\I701623A.raw

L:2762 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:85
L:2887 M:333 E: Wrong sequence grouping, Amino acids not in groups!